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Canada Centre
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Centre canadien
de la technologie
des minéraux
et de l'énergie

MINUTES OF THE TWENTY-SEVENTH MEETING OF THE CANADIAN NATIONAL
COMMITTEE ON ROCK MECHANICS HELD IN VANCOUVER, 12TH MAY, 1982.

D.G.F. HEDLEY

ELLIOT LAKE LABORATORY

AUGUST 1982

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l'énergie (CANMET).

MICROMEDIA

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MINUTES OF THE TWENTY-SEVENTH MEETING OF THE CANADIAN NATIONAL
COMMITTEE ON ROCK MECHANICS HELD IN VANCOUVER, 12TH MAY, 1982

by

D.G.F. Hedley*

ATTENDANCE

Members⁺

J.C. Wilson (Chairman)
D.R. Piteau (Vice-Chairman)
D.G.F. Hedley (Secretary)
C. Barsotti
P. Baumgartner
P. Calder
T. Carmichael
H. Miller
V. Pakalnis
P. Townsend
T.R. Yu

Ex-Officio

R. Benson (Canadian Geotechnical Society)

+ Full membership list Appendix E

* Research Scientist, Elliot Lake Laboratory, CANMET, Energy, Mines and
Resources Canada, Elliot Lake, Ontario.



The Chairman, J.C. Wilson, opened the meeting at 9.00 a.m. on May 12th, 1982. He welcomed the new committee members; P. Townsend from Denison Mines Ltd. and H. Miller from the University of British Columbia, as well as R. Benson representing the Canadian Geotechnical Society. Letters of regret for being unable to attend the meeting had been received from P. LeComte, J. Udd and B. Stimpson.

1. ELECTION OF CHAIRMAN AND VICE-CHAIRMAN, CNCRM

The Secretary, D.G.F. Hedley, stated he had solicited nominations for these two positions in the announcement of the annual meeting sent to all members. A written and verbal nomination had been received from members unable to attend. A request was made for nominations from the floor. P. Calder suggested that with the CNCRM applying to become a division of the CIM that the present Chairman should continue so that he could negotiate this change-over. This also had been the written and verbal recommendation received by the Secretary. The next Council meeting of the CIM at which to propose CNCRM as a CIM division is in September 1982, and the next conference organized by CNCRM would be in September 1983. It was proposed by P. Calder and seconded by V. Pakalnis that the present executive of J.C. Wilson, Chairman, and D.R. Piteau, Vice-Chairman, should continue in office until September 1983. This was accepted unanimously.

2. MINUTES OF THE LAST MEETING

The minutes of the last meeting were accepted unanimously.

3. FINANCIAL REPORT OF CNCRM

D. Hedley summarized the financial report of the CNCRM which is attached as Appendix A. Expenditures had been larger this last year with the expense of the Chairman attending the ISRM Council meeting in Tokyo to present

Canada's proposal to host the 6th International Rock Mechanics Congress and the expenses involved with the 14th Canadian Rock Mechanics Symposium. The balance to the 31st March, 1982 was \$3,799.04 although by 30th April, 1982 the CNCRM account stood at about \$16,000 due to receipt of the registration fees for the 14th Symposium. The Secretary mentioned that with CIM looking after the promotion, printing of brochures and registration of the 14th Symposium all costs were being charged against the CNCRM account, but all revenues were being accredited to the CNCRM account. Hence the CNCRM would take either the profit or loss from this Symposium. H. Miller stated that he thought the Vancouver branch of the CIM had undertaken to underwrite the Symposium. J.C. Wilson would check with CIM Headquarters to clarify their policy in this situation. The financial report was approved unanimously.

4. ANNUAL REPORT OF CRMG

T. Carmichael presented the CRMG financial report which is attached as Appendix B. He had taken over from the previous Secretary, M.S. King, in mid-1981, and the bank balance of \$256.76 had been transferred at that time. The previous Secretary had remitted 111 individual membership and 10 supporting membership fees to the ISRM, however, during the year only 77 individual and 6 supporting members had sent in contributions, hence the deficit of \$196.45 on the membership account. D. Hedley noted that the National fee, paid by the CNCRM, was recorded on the expenditure side but not on the revenue side. It was agreed that D. Hedley would correct the figures for inclusion in the minutes.

In 1982, 60 individual members and 2 supporting members had sent in their contributions up to April. It was agreed that the remittance to ISRM should be sent in June 1982 so that it accurately reflects actual membership and to eliminate any deficit. To promote membership in the CRMG and ISRM

announcements would be made at the 14th Symposium and arrangements made to collect membership dues.

Further discussion on the future role of CRMG took place under item 7 of the Agenda.

5. PROGRESS REPORT ON 14TH CANADIAN ROCK MECHANICS SYMPOSIUM

H. Miller reported that present registration was about 100 people (final registration was 126). At the banquet set for Thursday night Hon. T. Waterland, British Columbia Minister of Forests was the guest speaker. J.C. Wilson agreed to be the Master of Ceremonies and D.R. Piteau would give a tribute to the late Dr. D.F. Coates.

The tour to Similkameen was under-subscribed, but the tour to Robbins Company in Seattle was almost full. The ladies tour had been cancelled.

Session Chairmen were chosen for the Symposium: P. Calder - Thursday morning, T. Carmichael - Thursday afternoon, V. Pakalnis and D. Hedley co-Chairmen all day Friday.

Donations for the reception, prior to the banquet, had been received from Canadian Mine Enterprises and Piteau & Associates.

The Chairman thanked H. Miller and D. Piteau for their efforts in organizing the Symposium, especially after the departure of K. Mathews.

6. 6TH INTERNATIONAL ROCK MECHANICS CONGRESS

J.C. Wilson reported that after the last annual meeting of CNCRM in Montreal in May 1981 he had canvassed relevant organizations for support of Canada hosting the 6th Congress in Montreal in 1987. Letters of support had been received from CIM, CGS, EMR and the City of Montreal. A review of rock mechanics activities in Canada had also been prepared by M. Gyenge and C. Lee.

At the ISRM Council meeting in Tokyo in September 1981 both Canada

and India had made presentations to host the Congress and the final vote was 17 to 5 in Canada's favour.

J.C. Wilson had reported back to the CIM Council meeting in Thunder Bay. CIM Council had agreed in principle to organize the Congress after presentation of a financial budget, they would underwrite any losses and also take any profit. They had specified that the organizing committee must have a majority of CIM members including the Chairman.

A draft budget had been prepared and sent to CIM indicating that for an attendance of 600 people the budget would be about \$400,000 (in 1981 \$) to show a small profit.

J.C. Wilson stressed that it was important to establish an organizing committee as quickly as possible and of necessity most of the members would have to come from Montreal and Central Canada. However, sub-committees on tours and technical program would have national representation. Preliminary discussions had been held with CGS, a co-sponsor, and possible organizing committee members had been raised: B. Ladanyi (possible Chairman), P. LeComte, J. Franklin, C. Lee, J.C. Wilson and a CANMET representative.

P. Calder thought that this present list of potential members was weak on the mining side, especially since CNCRM had spearheaded the proposal to host the Congress and paid for the presentation in Tokyo. It was proposed that CNCRM nominate 5 members to the organizing committee and the following names were put forward: J.C. Wilson (as Vice-Chairman), V. Pakalnis, P. Calder, T. Yu and a CANMET representative. It was also agreed that B. Ladanyi be asked to become the Chairman.

7. CNCRM, CRMG AND CGS

As agreed at last years meeting in Montreal, J.C. Wilson held a meeting with B. Ladanyi in August 1981 to discuss the inter-relationship

between CNCRM and CGS and Canadian representation to the ISRM. After a survey of its members CGS had decided to set-up its own rock mechanics division to represent geotechnical(or civil) side of rock mechanics. A survey of CNCRM members had indicated a consensus that CNCRM should proceed as a division of CIM.

A meeting was held in March 1982 with CGS representatives to discuss an umbrella organization to represent Canada at ISRM. It was proposed that the Canadian Rock Mechanics Association (CRMA) would replace CRMG. This Association would consist of an executive committee nominated by CNCRM and the rock mechanics division of CGS. Fees for membership in ISRM would be collected by each separate group (\$10 suggested) and funnelled through CRMA to the ISRM. J. Wilson agreed to work with CGS to draft by-laws for the CRMA.

8. CNCRM AS A DIVISION OF CIM

From a survey of CNCRM members there was a consensus that CIM be approached for CNCRM to become a division rather than a special committee of CIM. The Chairman, J.C. Wilson, had discussed this with CIM Headquarters and received a favourable response. Based on the by-laws of the Metallurgical Society of the CIM, draft by-laws for the CIM Rock Mechanics Division had been sent to members along with the announcement of the annual meeting.

Some modifications to the wording of the by-laws were discussed and agreed to. By a vote of 6 to 5 it was agreed that individual officers of the executive committee (Chairman, Vice-Chairman and Secretary/Treasurer) would be elected by the membership-at-large, rather than electing the executive committee which then appointed the officers. D. Piteau and H. Miller agreed to examine these draft by-laws with respect to the modifications discussed, re-draft certain sections and submit to the Secretary for inclusion in the minutes. The revised by-laws are attached as Appendix C.

There was unanimous agreement that CNCRM should apply to become a division of CIM. The next council meeting of CIM is in September 1982, and it is hoped that a proposal could be made at that time.

9. REPORT OF SUB-COMMITTEE ON UNDERGROUND BLASTING

P. Calder stated that no formal meetings had been held last year, although meetings between mining companies and explosive manufacturers were still taking place, especially in Sudbury. Of the original terms of reference the quality control of delays had resulted in response from the manufacturers with improved delays. On standardization of procedures for vibration measurements, P. Calder agreed to try to pull this material together for publication in the CIM Bulletin. He also agreed to remain sub-committee Chairman for one more year to wrap up present work.

10. REPORT OF SUB-COMMITTEE ON BULKHEADS AND DAMS

V. Pakalnis reported that the survey of Ontario mines was complete, but had not yet expanded to mines in the rest of Canada. A court case was pending and it was better for it to be finished before proceeding.

11. REPORT OF AWARDS PANEL

P. LeComte had submitted his report which is attached as Appendix D. The winners in 1981 were P.N. Calder and G.H. Blackwell for their paper "Investigation of a Complex Rock Slope Displacement at Brenda Mines", published in the CIM Bulletin of August 1980.

Since P. LeComte had looked after the Award Panel since 1972 he had expressed a desire for someone else to become Chairman.

12. SUDBURY CENTENNIAL

J. Wilson stated that a miner's week had been scheduled for mid

September, 1983 as part of the celebration for Sudbury's Centennial. Discussions had been held with the Prospectors and Developers as well as District 3 of CIM to hold technical conferences during this week. D. Hedley had broached the subject of holding a Rock Mechanics Conference in Sudbury during the same week. The theme would have to be practical so that it would attract members of District 3, CIM as well, and Mining Support Systems had been suggested.

It was decided that CNCRM should organize a Rock Mechanics Conference in Sudbury in September 1983, and an organizing committee should be made up of members from Sudbury and Elliot Lake. Whether this Conference should be called the 15th Canadian Rock Mechanics Symposium or the 1st Conference of the Rock Mechanics Division, CIM was undecided.

13. NEW BUSINESS

T. Carmichael mentioned that a number of rock mechanics problems were involved in the nuclear waste repository program. He suggested forming a new sub-committee, but the terms of reference were important since so many groups were working on different aspects. It was agreed that T. Carmichael and P. Baumgartner would draft terms of reference and submit them to the Secretary.

H. Miller stated that now there were many computer programs related to rock mechanics and it would be of assistance if these could be listed, summarized and distributed. Again it was agreed that H. Miller would draft terms of reference and submit them to the Secretary.

D. Piteau thought that many of the old sub-committees had produced good reports, but not much of this information had got out to the public. He agreed to contact old sub-committee Chairmen to see if summaries of their reports could be published and if reactivation was necessary and feasible.

J.C. Wilson mentioned that if CNCRM becomes a division of CIM, then the medal for the best paper on rock mechanics should be re-named the D.F. Coates award. This was agreed. He also said that the papers submitted to the 14th Canadian Rock Mechanics Symposium needed editing prior to publication as a CIM special volume. P. Baumgartner volunteered to be responsible for editing.

14. NEXT MEETING, PLACE AND TIME

The next Annual Meeting of the CNCRM will be held in Sudbury during the Rock Mechanics Conference in mid-September 1983.

THE CANADIAN INSTITUTE OF MINING AND METALLURGY

Canadian
National
Committee on
Rock Mechanics

Headquarters: Suite 400, 1130 Sherbrooke St. W., Montreal, Quebec H3A 2M8 Phone: 1-514-842-3461

FINANCIAL STATEMENT

31st March, 1982

Balance as of 31st March, 1981 \$11,597.15

INCOME

Grant from E.M.R.....	\$3,000.00	
Interest on term deposits	<u>\$756.63</u>	
	\$3,756.63	\$15,353.78

EXPENDITURES

Rental meeting room Montreal	\$89.88
Luncheon CNCRM meeting	\$145.58
Partial subsidy to University members to attend CNCRM meeting	\$461.50
Deficit on visit to La Grande Complex, James Bay	\$523.40
ISRM national fee	\$72.00
Wreath, D.F. Coates funeral	\$42.50
Advance 14th Symposium	\$500.00
Secretarial expenses	\$57.50
<u>Chairman's expenses:</u>	
Preparation and attending ISRM meeting, Tokyo	\$4,030.28
Attending CGS directors meeting	\$196.97
Incidental	\$53.37
CIM, Printing and mailing 14th Symposium announcements	\$2,970.85
CIM, Printing program brochures	<u>\$2,410.91</u>
	\$11,554.74

Closing balance 31st March, 1982

\$3,799.04

CANADIAN ROCK MECHANICS GROUP

FINANCIAL STATEMENT

1st January, 1981 - 31st December, 1981

BANK ACCOUNT

Opening balance 1st January 1981	\$811.21
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REVENUE

Membership fees	\$1,049.00	
National fee from CNCRM	\$72.00	
	<u>\$1,121.00</u>	\$1,932.21

EXPENDITURES

Remittance to ISRM	\$1,317.45	
Newsletter printing and postage	\$549.00	
	<u>\$1,866.45</u>	
Closing balance 31st December 1981		\$65.76

MEMBERSHIP ACCOUNT

77 individuals at	\$7.00	\$539.00
6 supporting at	\$85.00	\$510.00
National fee	\$72.00	<u>\$72.00</u>
		\$1,121.00
Remittance to ISRM		
National fee		US \$60.00
111 individuals at	US \$4.20	US \$446.40
10 supporting at	US \$60.00	US \$600.00
Exchange and bank charges		<u>\$211.05</u>
	Can.	\$1,317.45
Deficit		\$196.45

ROCK MECHANICS DIVISION
of
THE CANADIAN INSTITUTE OF MINING & METALLURGY
BY-LAWS

Appendix C

ARTICLE I - NAME

Section 1

This Division shall be known as the Rock Mechanics Division of the Canadian Institute of Mining and Metallurgy.

ARTICLE II - OBJECTIVES

Section 1

The objectives of the Division shall be the advancement of the science and technology of rock mechanics in Canadian mining.

- a) providing a medium of communication and co-operation among those interested in any aspect of rock mechanics as it applies to mining operations;
- b) disseminating knowledge and information through meetings, publications, discussions and other means of communication;
- c) promoting high professional standards among its members;
- d) encouraging interest and the advancement of education in rock mechanics and identifying possible research activities in rock mechanics;
- e) service through representation in the Canadian National Rock Mechanics Association, for the co-ordination of rock mechanics' activities within Canada, for affiliation with the International Society for Rock Mechanics, and for representation on other international organizations and committees.

ARTICLE III - RELATIONSHIP TO CIM

Section 1

The Division shall be governed by its By-Laws and by the Constitution and By-Laws of The Canadian Institute of Mining and Metallurgy in conformity with the laws of Canada.

Section 2

The Division shall be represented on the Council of the Institute by the Chairman and the First Vice-Chairman.

Section 3

The Division's headquarters shall be those of the Institute.

ARTICLE IV - MEMBERSHIP

Section 1

The Membership of the Rock Mechanics Division shall consist of such persons who, by intent or practice, subscribe to the objectives of the Division and who meet the requirements for various grades of membership in the Institute as specified by the By-Laws of the Institute.

ARTICLE V - DUES AND FINANCE

Section 1

The regular dues of the Division are the same as those of the Institute and shall be part of the Institute treasury.

Section 2

All funds accruing from other sources, and such funds as may be provided by the Council of the Institute, shall be part of the Division treasury.

Section 3

Special dues or assessments of the Institute's dues may be recommended by the Executive Committee and authorized only by a majority vote of the Membership at the Annual General Meeting of the Division, subject to the approval of the Council of the Institute.

Section 4

The expenditure of funds received by the Division shall be authorized by the Executive Committee of the Division.

Section 5

The Treasurer of the Division shall present annually a financial report to the Membership showing Division receipts from all sources and complete disbursements.

ARTICLE VI - MEETINGS

Section 1

The Division shall meet annually to consider any ordinary business concerning the Division which may be brought before it, including the election of Officers of the Division, and any special business, including proposed amendments of the Division's By-Laws. Notice of date, time and place of the Annual Meeting and any special business, including proposed amendments of the

By-Laws, to be transacted at such meetings shall be mailed to Division members and announced in the CIM Bulletin at least thirty days prior to the date of the meeting.

ARTICLE VII - OFFICERS

Section 1

An Executive Committee will consist of at least four, but no more than six, members. The Executive shall have four officers, namely a Chairman, Vice-Chairman, Secretary/Treasurer, and Past-Chairman.

Section 2

The Executive Committee members are elected by voting by the general membership of the Rock Mechanics Division.

The Executive Committee will propose a slate of candidates for election to the Executive Committee as new positions become available, but leave the general Membership the right to nominate others and then vote on the new Executive Committee members.

Section 3

The term of office of each elected Executive Committee member shall be four years. Two of the Executive Committee members shall be replaced, or renominated, every two years.

Section 4

A member of the Executive Committee may be renominated for election at the end of his first term of office but no member of the Executive Committee may serve for more than eight consecutive years as a member of the Executive Committee, except under special circumstances and as approved by the Division members.

ARTICLE VIII - GOVERNMENT

Section 1

The basic authority of the Division shall be the Membership.

Section 2

The Executive Committee shall administer the affairs of the Division.

ARTICLE IX - NOMINATIONS AND ELECTIONS

Section 1

A Nominating Committee comprising the Executive Committee, shall solicit names from the Membership for vacancies arising in the Executive Committee at least six months prior to the Annual General Meeting.

Section 2

The slate of nominees for election to the Executive Committee will be voted on by secret ballot at the Annual General Meeting. Election of the new Executive Committee member nominees will then be voted on by the general Membership.

Section 3

The Chairman, Vice-Chairman and Secretary/Treasurer of the Executive Committee will be based on the number of votes for the nominees, the highest number being the Chairman. If the nominee wishes to decline a particular position, other persons on the Executive Committee or outside of the Executive Committee can be approached.

Section 4

Vacancies occurring in any office shall be filled from the Membership by vote of the Membership for any unexpired portion of the term of office, except in the event of a vacancy of the Division Chairman, whereupon the Vice-Chairman shall assume the office of the Chairman for the unexpired term.

ARTICLE X

Section 1

Amendments by the By-Laws of the Division may be recommended to the Division by:

- a) approval from a majority of the Executive Committee of the Division at any time
- b) a majority vote at the Annual General Meeting of the Division, or
- c) direct representation to the Division by not less than five members of the Division

Section 2

Recommended amendments will be presented and voted on at the Annual General Meeting of the Division.

THE CANADIAN INSTITUTE OF MINING AND METALLURGY
CANADIAN NATIONAL COMMITTEE ON ROCK MECHANICS

AWARDS PANEL

1981

The Award Panel was formed in 1972 to initiate an annual competition for an award for the best Canadian paper on applied rock mechanics. The rules which were then established and which are still being followed are :

1. The award is open to authors of papers published in Canada or to authors of papers published elsewhere if the authors were resident in Canada at the time of publication.
2. The paper must be published in a form that is available to the general public for reference purposes and should either be about or have a practical application.
3. Paper should be nominated by members of the Society (who may nominate their own papers if they wish). More than one paper by an author may be submitted.
4. Papers must have been published within the three calendar years preceding the year in which the award is made.
5. A paper that does not receive an award may be renominated as long as the publication date remains within the three-year interval preceding the award year for which it is renominated.

The award consists of a certificate and a golf medal for each of the authors (if there is more than one) of the winning paper.

/jc

The 1981 panel members were :

Mr. W. Comeau	Hydro-Québec
Prof. D. Gill	Ecole Polytechnique of Montreal
Dr. P. LeComte (chairman)	Hydro-Québec
Dr. D. Nguyen	Hydro-Québec
Dr. G. Sauriol	Gaspé Copper Mines Ltd.

The chairman regrets that due to some misunderstanding between himself and the executive of CNCRM, the competition for the awards was late starting and the announcement in different Canadian publications was rather limited. Also the experience of the members of the reviewing panel was not as diversified as in previous years.

Four papers were submitted for the 1981 competition and the winners were Professor P.N. Calder, Head of the Mining Engineering Department at Queen's University and Mr. G.H. Blackwell, Chief Mine Engineer at Brenda Mines. The title of the winning paper was: "Investigation of a Complex Rock Slope Displacement at Brenda Mines" and this paper was published in the CIM Bulletin of August 1980.

The announcement of the 1981 winners will appear in the following publications :

- 1) CNCRM Newsletters
- 2) The Engineering Journal
- 3) The Canadian Mining Journal

- 4) The CIM Bulletin
- 5) The Northern Miner
- 6) The Western Miner

Paul Lecomte

PAUL LECOMTE, Chairman
Awards Sub-Committee

/jc

LIST OF MEMBERS AND ADDRESSESCanadian National Committee on Rock Mechanics

Mr. J.C. Wilson, Chairman	Ontario Ministry of Natural Resources, 199 Larch St., Sudbury, Ontario P3E 5P9
Dr. D.R. Piteau, Vice-Chairman (Geology Division, CIM)	Piteau & Associates, Ltd., Kapilano 100, Suite 708, West Vancouver, B.C. V7M 1A2
Dr. D.G.F. Hedley, Secretary	Elliot Lake Laboratory, CANMET, E.M.R., P.O. Box 100, Elliot Lake, Ontario. P5A 2J6
Dr. K. Barron	Coal Mining Research Centre, University of Alberta, Edmonton, Alberta. T6G 2E2
Mr. C. Barsotti	INCO Metals Company, Copper Cliff, Ontario. POM 1N0
Mr. P. Baumgartner	Whiteshell Nuclear Research Establishment, Atomic Energy of Canada Ltd., Pinawa, Manitoba. R0E 1L0
Dr. P. Calder	Department of Mining Engineering, Queen's University, Kingston, Ontario. K7L 3N6
Mr. T.J. Carmichael (Secretary, Canadian Rock Mechanics Group)	Civil Research Department, Ontario Hydro, 800 Kipling Avenue, Toronto, Ontario. M8Z 5S4
Dr. J.A. Franklin	The Stream, RR1, Orangeville, Ontario.
Mr. O. Garg	Hanna Mining Company, 100 Erieview Plaza, Cleveland, Ohio 44114, U.S.A.
Dr. P. LeComte	Hydro-Quebec, 855 St. Catherine E., (17th Floor), Montreal, Quebec. H2L 4M4
Dr. H. Miller	Dept. of Mining & Mineral Process Eng., University of British Columbia, Vancouver, B.C.

Mr. C. Monahan	Falconbridge Nickel Mines Ltd., Falconbridge, Ontario. POM 1S0
Prof. R.G.K. Morrison	79 Brouage, Lucerne, Aylmer East. Quebec. J9J 1S5
Mr. V. Pakalnis	Ontario Ministry of Labour, 260 Cedar St., Sudbury, Ontario. P3B 3X2
Prof. T. Patching	Department of Mineral Engineering, University of Alberta, Edmonton, Alberta. T6G 2E1
Mr. J.D. Smith (Metal Mining Div. CIM)	J.D. Smith Engineering Assoc. Ltd., 110 Lakeshore Blvd., Kingston, Ontario. K7M 4C3
Dr. B. Stimpson	Department of Mineral Engineering, University of Alberta, Edmonton, Alberta. T6G 2G6
Mr. P. Townsend	Denison Mines Ltd., P.O. Box B-2600, Elliot Lake, Ontario P5A 2K2
Dr. T.R. Yu	Kidd Creek Mines Ltd., B 2002, Timmins, Ontario. P4N 7K1